

7. *C. LURIDA* (Bl.) Copel. — Apart from the original collection, I have seen only one other, from West Java. In Sumatra and the Malay Peninsula this species is found in ridge forest (not in exposed places) at 1250—1800 m.

8. *C. GIGANTEA* (Wall, ex Hook.) Holttum — In Java at low elevations, in the West only. This species' is very widely distributed, occurring in Ceylon and South India, from N.E. India to Burma, Thailand and Indochina to Penang and Kedah, also in central Sumatra. It grows in more open places than *C. glabra*.

9. *C. GLABRA* (Bl.) Copel. — In forest, to 1650 m, West Java; very few collections, and now apparently rare. In Borneo, Sumatra and the Malay Peninsula this species occurs in wet lowland forest, and in mountain forest to about 1500 m.

10. *C. TRIPINNATA* Copel. — Only two collections known from West Java, from forest at 700 m. This species occurs at altitudes of 250—1700 m throughout the Philippines, also in N. Borneo and Ambon; one collection has been made on Pulau Tioman, off the east coast of the Malay Peninsula.

11. *C. TOMENTOSA* (Bl.) Zoll. & Mar. — At 2200 m and above, in ridge forest and in open swampy places in gullies, on mountains from West Java to Flores.

12. *C. PERSQUAMULIFERA* (v.A.v.R.) Domin — On mountains, 1500—2500 m, apparently in open places, few times collected; also in Central Sumatra.

13. *C. TENGGERENSIS* (Rosenst.) Domin — In open places at 1500—2300 m; East Java to Flores and in S. Celebes. Locally abundant on Mt Tengger.

14. *C. CONTAMINANS* (Wall, ex Hook.) Copel. — In clearings and open places in forest, especially near streams, throughout Java, 200—1600 m, the commonest tree-fern; also throughout Malesia and northwards to Mergui.

15. *C. SQUAMULATA* (Bl.) Copel. — A small tree-fern of forest in lowlands and to 1500 m, West Java; also in Sumatra, Malay Peninsula, Borneo and Sulu Archipelago.

THE GENUS ACIOA Aublet (Rosaceae - Chrysobalanoideae) IN MALESIA

by
A.J.G.H. KOSTERMANS *)

SUMMARY

1. The first record of *Aciov*, Aublet from S.E. Asia.
2. Three species are described: *Acioa heteropetala* (Scortechini ex King) Kosterm., based on *Parinarium heteropetalum* Scortechini ex King and the new species: *Acioa malayana* Kosterm. and *A. percoriacea* Kosterm.
3. *Parinwrium kunstleri* King and *P. myriandrum* Merr. are reduced to synonymy of *Acioa heteropetala* Kosterm.

ACIOA Aublet

ACIOA Aublet, Hist. PL Guiane fr. 2: 698, t. 280. 1775; Scopoli, Introd. 291. 1777; Lamarck, Encycl. méth. Bot. 2: 146. 1786; de Jussieu, Gen. PL 342. 1789 (ed. Usteri 378. 1791); Gmelin, Syst. 1028. 1791 (*Acioja*); Schreber, Gen. 458. 1791; Willdenow, Spec. PL 3(1): 717. 1800 (as a syn. of *Ada*- Schreber); Batsch, Syn., tab. p.4. 1802; St. Hilaire, Expos. Fam. 2: 194. 1805 (*Ada* Schr.); Hedwig, Gen. 25. 1806; Persoon, Enchir. 2: 238. 1807; Poiret, Diet. Sciences 11: 222. 1818 (*Coupi*); Steudel, Norn. 9. 1821; ed. 2, 1: 17. 1840; DC, Prodr. 2: 526. 1825; Sprengel, Syst. Veg. 3: 84. 1826 (sub *Ada* Schr.); Gen. 2: 552. 1831; Martius, Nova Gen. & Sp. PL 2: 79. 1826 (as a syn. of *Moquilea* Mart. & Zucc.); Reichenbach, Consp. 171. 1828; Bartling, Ordin. nat. 406. 1830; G. Don, Gen. Syst. 2: 478. 1832; Spach, Hist. nat. Veg. phan. 1: 371. 1834; Meissner, Gen. 102 (72). 1836—43 (section of *Moquilea*); Zuccarini in Flora 15(2): 87—93. 1832; Endlicher, Gen. PL 1252, no 6410. 1840 (sub *Moquilea* Mart. et Zucc.); Benth'am in Bentham & Hooker F, Gen. PI. 1: 608. 1865 (as a syn. of *Couepia*, Aublet); Dietrich, Syn. 4: 811. 1847 (*Avioa*); Blume, Mus. bot. Lugd. bat. 2: 92. 1856 (subgenus of *Moquilea* M. & Z.); Miiller in Walp. Ann. 4: 643. 1857 (subgenus of *Moquilea* M. & Z.); Hooker in Martius, Fl. Bras. 14(2): 40. 1867 (as a syn. of *Couepia* Aublet); Baillon in Adansonia 7: 222. 1867; Hist. PL 1: 437 et 482. 1869; Diet. Bot. 1: 31. 1876; Oliver, Fl. trop. Afr. 2: 371. 1871 (sub *Griff onia* Hk. f); Pfeiffer, Norn. bot. 1: 24. 1873; Durand, Index 111. 1888 (sub *Couepia* Aublet); K. Fritsch in Ann. K.K. naturh. Hofmus. Wien 4: 36, 37, 38. 1889; Focke in Engler & Prantl, Nat. Pfl. fam. 3(2): 60. 1891; de Dalla Torre & Harms, Gen. siph. 211. 1901; Post & Kuntze, Lexikon 5. 1904; de Willde man in Bull. Jard. bot. Etat Bruxelles 7: 188—190. 1920; Cardot in Mem. Mus. Hist. nat. Paris 191—93. 1922; Lemée, Diet. Genres 1: 38. 1929; Hauman in Fl. Congo beige et Ruanda Urundi (Spermatoph.) 3: 44. 1952.

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Ada Schreber, Gen. 2: 458. 1791; Willdenow, Spec. PI. 3(1): 717. 1800; St. Hilaire, Expos. Fam. 2: 194. 1805; Sprengel, Anleit. 2(2): 867. 1818; Syst. Veg. 3: 84. 1826; Steudel, Norn. 9. 1821; ed. 2, 1: 16. 1840; Meissner, Gen. 2: 72. 1836—43 (sub *Moquilea* M. & Z.); Pfeiffer, Norn. 1: 24. 1873; Durand, Index 111. 1888; de Dalla Torre & Harms, Gen. siphon. 211. 1901; Post & Kuntze, Lexikon 5. 1904.

Dilacia (non Vell.) Necker, Elem. 2: 414, no 1236. 1790; DC, Prodr. 2: 526. 1825; G. Don, Gen. Syst. 2: 478. 1832; Meissner, Gen. 2: 72, 1836—43; Steudel, Nom. ed. 2, 1: 17. 1840; Baillon, Hist. PI. 1: 435. 1869 (in adnot.); Pfeiffer, Nom. 1(2): 1148. 1874; Durand, Index 578. 1888; Post & Kuntze, Lexikon 188. 1904.

Dactyladenia Welwitsch, Apont. phyto-geogr. 1859 in Annaes Conselho ultramar IS58: 572; de Dalla Torre & Harms, I.e.; Post & Kuntze, Lexikon 5 et 161. 1904.

Gripponia (non Baillon) Hooker f. in Bentham & Hooker f., Gen. PI. 1: 608. 1865; Baillon in Adansonia 7: 222. 1867; Hist. PI. 1: 437. 1869; Durand, Index 111. 1888; Oliver, PI. trop. Afr. 2: 371. 1871; Focke in Engler & Prantl, Nat. Pfl. fam. 3(2): 60. 1891; de Dalla Torre & Harms, Gen. siphon. 211. 1901; Post & Kuntze, Lexikon 257. 1904.

The genus was proposed by Aublet, who gave a fairly good description, although his figure is bad and full of errors.

Martius combined *Moquilea*, *Couepia* and *Acioa* in 1826 (Nov. Gen. et Sp. PL). Meissner (Genera) followed his example, giving *Couepia* and *Acioa* sectional rank. Zuccarini (Flora 1832), although still combining *Moquilea* and *Couepia*, believed that *Acioa* was a good genus. Endlicher included *Acioa* in *Moquilea*. Bentham (Benin. & Hk. f., Gen. PL), separated *Couepia* from *Moquilea*, but included *Acioa* in *Couepia*. Blume (1856) again included *Acioa* and *Couepia* as subgenera in *Moquilea*. Baillon (1869) considered *Acioa* a proper genus. He (Adansonia 1867) believed *Gripponia* to be congeneric with *Acioa*. Oliver (1871) pointed out the possibility of *Acioa* and *Gripponia* Hooker f. being congeneric. Focke (1891) maintained *Acioa* and this has been done since by other authors.

Trees; leaves spirally arranged, simple, entire; petioles short; leaf glands at the leafbase sometimes present; stipules large, early caducous. Flowers in narrow, bracteate panicles; calyx tube short or long, empty inside; lobes 5, subequal, imbricate, small; petals 5, strongly unequal; filaments unilateral, numerous, for the greater part connate into a long, narrow strap, circinate in bud; upper parts of filaments free, bearing the oblong or roundish anthers; the connate filaments opposite the style are enveloped at first by three imbricate, erect, large petals (the other 2 petals explanate); the stamens at the side of the style sterile, inconspicuous or present as a toothed margin. Ovary attached to the rim of the calyx tube, lateral, pilose, one-celled, two-ovulate; style long, basal with a minute, truncate stigma. Fruit a nut or drupaceous, one-seeded; pericarp crustaceous to woody; cotyledons simple or conferrumate; endocarp pilose or glabrous.

KEY TO THE SPECIES

- 1a. Leaves coriaceous. 2
- b. Leaves chartaceous; calyx tube long and slender. 2. *A. malayana*.
- 2a. Branchlets densely yellowish brown pilose; lower leaf surface with a lax indumentum of cobweb-like grey hairs, glabrescent. 3. *A. percociacea*.
- b. Branchlets and lower leaf surface glabrous; calyx tube very short, broad. 1. *A. heteropetala*.

1. *Acioa heteropetala* (Scortechini ex King) Kosterm., comb. nov.—
Fig. 1

PARINARIUM *HELIOPETALUM* Scortechini ex King (basionym) in J. As. Soc. Bengal 66(2): 283. 1897; Ridley, Fl. Malay Pen. 1: 670. 1922; Nayaramaswami in J. As. Soc. Bengal., N.S. 27: 368. 1931. — *Scortechini* 20J, 0' (holo-typus); King's Coll. 66k, 6899, para-typus (CAL).

Parinarium kunstleri King in J. As. Soc. Bengal 66(2): 282. 1897; Ridley, I.e. 670. 1922. — King's Coll. 3747, 6917 (CAL).

Parinarium myriemdrum Merrill in Univ. Calif. Publ. Bot. 15: 93. 1929. — Elmer 213U, holotype (UC), Elmer 218^8, para-typus (UC).

Tree, up to 35 m high and 60(—90) cm in diam.; older trees buttressed, the buttresses straight, short, merging into the bole, out 0.5—1 m, 10 cm thick; bark smooth, hard, slightly cracked, brown or grey-brown, 1 mm thick; living bark red to purplish red, 6—15 mm thick, cambium pinkish; sapwood 3—10 cm, pale yellowish; heartwood beefy red, hard. Branchlets glabrous, brown, with tiny, oblong lenticels. Leaves glabrous, coriaceous, subovate-elliptic (rarely lanceolate, 3 x 10 cm), 2.5—6 x 5—20 cm, base conspicuously decurrent and cuneate or rounded, apex shortly, bluntly acuminate, both surfaces densely, minutely, prominulously reticulate and the veins marked by numerous, tiny, protruding dots, upper surface drying a dark colour, somewhat glossy, midrib prominent; lower surface drying brown, less glossy, midrib prominent, lateral nerves 6—10 pairs, rather patent, towards margin strongly arcuate, slender, prominent. Petioles 6—12 mm long, flat above, margin slightly winged (decurrent leaf margins) or not; in the leaves with rounded leaf bases an indication of glands at the apex.

Stipules relatively large, foliaceous, ovate, acute or acuminate, glabrous (except apex), 6—7 mm long, partly intrapetiolar, carinate, rather long-persistent.

Panicles very narrow, raceme-like, axillary and terminal, silky pilose, up to 10 cm long, the lower ramifications up to 1 cm long; bracts and bracteoles ovate, acute, concave, caducous, the largest 3 mm long. Pedicel stout and very short. Calyx tube very short, rather broad, 2—3 mm high; sepals brownish green, fleshy, unequal, ovate to ovate-elliptical, acutish, silky pilose on both surfaces, up to 7 mm long, after anthesis reflexed and persistent for a considerable period under the fruit. Petals white with pink tinge, fleshy, elliptical, obtuse, concave, up to 14 mm long, outside (except base) silky pilose, deciduous; the three petals opposite the filaments

imbricate, at first erect, pale purplish, concave, elliptical, up to 15 mm long, enveloping the filaments; the other petals explanate, more ovate, 6 mm long; filaments about 25—30, white, slender, glabrous, up to 12 mm long, at the side opposite the style, for $\frac{2}{3}$ grown together, erect; sterile stamens none; anthers pilose; ovary one-celled, densely pilose; style stout, densely adpressed strigose (except apical part), up to 15 mm long, stigma slightly broader than the style, truncate. Fruit subovoid, mono-locular, brown with scurvy dots and spots, laterally compressed, obtuse, up to 4 cm long and 3 cm in diameter; stalk 2 mm long and 2 mm in diam.; calyx more or less persistant. Exocarp 0.5 mm, mesocarp marbled, 2—3 mm, endocarp 0.5 mm; seedcoat redbrown, membranous, cotyledons 1.5 x 3 cm.

DISTRIBUTION.—Malay Peninsula, Sumatra, Philippines (Mindanao), Borneo, Celebes, from sea level to 500 m alt.

VERNAC. NAMES: Selemak (Central Sumatra); Tabena motea (Celebes, Malili region, Tobela, Padue language); Wua (= fruit) kote (Usu, Malili); Wua dira (Bugis language).

USE: The fruit is edible and eaten in Celebes and Sumatra. The timber is easy to cut and saw, smells somewhat of HCN, is red when freshly cut, turns later brownred, rots away easily in the open.

The one-celled ovary, the filaments which are grown together and the "papilionaceous" flower places this species in *Acioa*, although the tube is extremely short in comparison with American *Acioa*. It has no hairs in the fruit cell and the cotyledons are flat-convex, contrary to *Griffonia* (= *Acioa*) of Africa.

No glands were found on the leaves, but for some obscure, perhaps glandular tissue at the top of the petiole of leaves with a rounded leaf base.

The number *King's coll. 3745* is sometimes cited as 3715.

- The description of the colour of the flower shows some discrepancies with different collectors; the petals are described as white, but in one case (Elmer) as yellow and he describes the calyx and bracts as having a dull flesh colour; elsewhere the flowers are described as being blue or violet.

Glands could be observed in the material, formerly described as *P. kunstleri* and in *P. heteropetalum*, but they are often lacking, which is not uncommon in the genus. The scabrosity is found in all specimens. The petiole length varies between 5 and 10 mm.

P. kunstleri was also described after a fruiting specimen. King differentiated it from *P. heteropetalum* by the subequal petals and straight flowers in the former as to the unequal and curved ones in the latter.

This observation may be attributed to the poor condition of the remnants of the flowers, in the fruiting specimens of *P. kunstleri*. King compared *P. kunstleri* with *P. asperulum*, to which it is certainly not allied.

MALAY PENINSULA: Perak, Larut, Nov., fl., *King's Collector 6899* (BO, DC, K, L, P, US); ibid., Dec., fr., *King's Coll. 6917* (BO, P, SING); ibid., Jan., fr., *King's Coll. 3745* (BO, DC, K, L, LE, SING); locality not indicated, fl., *Scorteehini 2040* (BO, SING); SUMATRA: Central Sumatra, Pakanbaru, Tenajan R., Aug., buds, *Soepadmo 147* (BO, L); Palembang Distr., Banjuasin & Kubu Region, Bajunglintjir, alt. 15 m, Nov., fl., *120 E. IP. 786* (BO, L); ibid., Jan., ster., *120 E. IP. 786* (BO, L); ibid., Oct., fl., *120 E. IP. 786* (BO, L); ibid., Febr., fr., *120 E. IP. 786* (BO, L); Nov., fl., *120 E. IP. 1161* (BO, L); ibid., Febr., fl., fr., *120 E. IP. 1161* (BO, L); ibid., Dec., young¹ fr., *120 E. IP. 1161* (BO, L); ibid., marshy, Nov., ster., *Grashoff 799* (BO, K) et Dec. ster., *Grashoff 871* (BO); ibid., Musi Hilir, Semandai, alt. 25 m., Oct., fl., 66. 20209 (BO, L); ibid., Ipil, alt. 6 m, ster., *T.B. 1117* (BO, L); ibid., Musihulu, March, fl., 66. 23965 (A, BO, L, SING); ibid., Oct., buds, 66. 20299 (BO, L); ibid., Musihulu & Rawas, Muara Lakitan, alt. 40 m, ster., 66. 20289 (BO); ibid., Musihulu, Lubukpandan, March, fr., 66. 2S965 (BO, SING); ibid., Rawas, Tandjong Beringin, Oct., fl., 66. 13841, (B, BO, K, L, P, SING); NORTH BORNEO (SABAH): Kinabatangan, Batuputih, Febr., fl., *Madon 1644* (K); Hill 1.5 miles N.E. of Beaufort Township, alt. 120 m, May, fl., fr., *Wood San 15499* (A, BRI, K, KEP, L); ibid., June, fl., *Wood San 16915* (A, B0₃ BRI, K, KEP, L, SING); Sandakan, Jalan Hujong Tg. Sepilok For. Res., June, buds, *San. 37514* (BO, K); locality not indicated, buds, *Wood 1931* (BO); Tawao, fr., *Elmer 21848* (BISH, BO, L, P, SING, UC) et fl., *Elmer 21344* (BISH, BO, L, P, SING, UC); BRUNEI: Andulau For. Res., Kuala Belait, Cpt. 6., May, fl., *San 17561* (A, BO, BRI, K, KEP, L, SING); ibid., fr., *Ashton 621* (BO, L, SAR); W. KALIMANTAN (Indon. Borneo): Sanggau Distr., Sg. Labai, alt. 10 m, ster., 66. 7857 (BO); E. Kalimantan: Isl. Nunukan, fr., *Kostermans 9183* (BO); ibid., May, buds, 66. 29339 (A, BO, L, NY, SING); ibid., Forest Garden, fl., 66. 39 (BO, L, SING); Berau, Tdg. Redeb, Labanan, alt. 25 m, ster., 66. 11540 (BO); Sangkulirang Distr., R. Karangan, Aug., fl., *Kostermans 13630* (A, BM, BO, CANB, K, KEP, L, NY, PNH); PHILIPPINES: Mindanao, Lake Lamao, Camp Keithley, June, fl., *Clemens 1030* (BO, K, L); SULAWESI (Celebes): Malili Distr., Usu, March, fr., *Cel/IT—463* (BISH, BO, BRI, SING); ibid., Nov., fl., *Cel/II—463* (BO, L, SING); ibid., ster., *Cel/II—463* (BO, L, SING); ibid., March, fr., *Cel/III—16* (BO); ibid., Oct., buds, *Cel/III—16* (BO, L); ibid., Dec., ster., *Cel/III—16* (BO, L); ibid., alt. 300 m., June, ster., *Cel/II—100—103* (BO); ibid., Oct., buds *Cel/III—171* et 172 (BO); ibid., Nov., buds, *Cel/III—173* et 174 (BO); ibid., near La Rona, ster., 66. 1817 (BO, L); 66. 1820 (BO, L); 66. 1838, 1911 (BO, L); ibid., ster., 66. 2323, 2344, 2410 et 2419 (BO).

2. *Acioa malayana* Kosterm., spec. nov.—Fig. 2

Arbor mediocris ramulis glabris sulcatis foliis chartaceis glabris ellipticis basi cuneatis apice acuminatis supra nervo mediano lato subplano costis filiformibus prominulis, reticulatione minute prominulis, subtus dense prominente reticulatis, nervo mediano prominentibus costis 10—12, basi

glandulosis; petiolis brevis; stipulis lanceolatis acutis glabris; paniculis subracemiformibus paucifloris dense pilosis, tubus calycinis gracilis lobis subaequilongis; stamina fertilia pro parte connata, stylus staminibus superantibus, pilosis.

TYPUS: Haniff S.F.N. 21059 (SING).

Tree 8—10 m tall; branchlets glabrous, sulcate; branches with tiny pale lenticels. Leaves glabrous, chartaceous, elliptic, 6 x 15—8.5 x 19 cm, base cuneate, often decurrent, apex shortly, broadly acuminate; upper surface dark (dried), midrib broad, hardly prominulous, lateral nerves filiformous, prominulous, reticulation slightly prominulous; below paler, brown (dried), midrib strongly prominent, at base on either side with a round gland, lateral nerves prominent, 10—12 pairs, erect-patent, slightly curved; reticulation conspicuous, slender. Petioles about 3 mm long.

Panicles subterminal, densely pale brown pilose, subracemiformous, few-flowered, little or not branched, up to 5 cm long; bracts ovate, acute, up to 3 mm long, caducous at anthesis. Flowers almost sessile; calyx tube slender, 5 mm long; lobes 4—5 mm, ovate, acute, densely pilose outside, inside glabrous except at apex; petals spathulate, 6 mm long, narrowed at base; stamens 8—10, for about half their length grown together in a band, which broadens downward; ovary densely sericeous-strigose; style exceeding the filaments for 2 mm, for the greater part strigose.

DISTRIBUTION:—Only known from the type locality

The species has a more or less decurrent leaf base as in *A. heteropetala*; the consistency of the leaves, size and flower characteristics are different.

MALAY PENINSULA: Kedah - Perak Boundary, Bukit Blakang Parang, Gunong Bintang, April, fl., Haniff S.F.N. 21059 (SING).

3. *Acacia percoriacea* Kosterm., spec. nov.—Fig. 3

Arbor ramulis minute flavo lanuginosis foliis percoriaceis ellipticis basi breve cuneatis subtus glandulis conspicuis orbicularibus moditis, apex obscure acuminatis vel rotundatis supra glabra nitida, nervo mediano subpiano subtus minutissime albopilosus, nervo mediano prominentibus lato, costis utrinque 7—8 prominentibus reticulatio deest, petiolis crassis parvis; stipulis lateralibus, ovato-lanceolatis longe acuminatis carinatis extus perdense minutissime pilosis, magnis.

TYPUS: bb. 7098 (BO)

Tree 28 m tall and 50 cm in diam.; free bole 20 m; buttresses 2.5 m high, out 40 cm, thick 15 cm; bole sometimes fluted; bark 2 mm, palebrown, smooth; living bark 4 mm, redbrown; sapwood 2 cm, dark yellow, merging

into the red-brown heartwood; branchlets densely minutely yellowish brown pilose; branches glossy, dark redbrown, glabrous. Leaves rigidly coriaceous, elliptic, 3.5—7.5 x 6—12 cm, base shortly cuneate or acute, bearing at the lower leaf surface on both sides of the top of the petiole a conspicuous, round, protruding gland; apex obscurely acuminate or rounded; upper surface "glossy, glabrous, minutely, densely impressed reticulate, midrib almost level with the leaf surface, lateral nerves filiformous, slightly impressed; lower surface more dull, covered with a lax indumentum of tiny cobweb-like grey hairs, glabrescent, midrib stout, strongly prominent, more densely pilose; lateral nerves 7—8 pairs, erect-patent, prominent, straight (curved near the margin, the upper ones anastomosing); secondary nerves faint, parallel, rather "spaced, reticulation lacking. Petioles stout, densely, minutely pilose, about 5 mm long.

DISTRIBUTION: Only known from the type locality.

Although the species is sterile its affinity is manifestly with *A. heteropetala*, from which it may be distinguished by its indumentum and leaf glands.

W. KALIMANTAN (Indones. Borneo), Sambas Distr., village Sentimo, alt. 20 m, Aug., ster., bb. 7098 (BO, K, L).

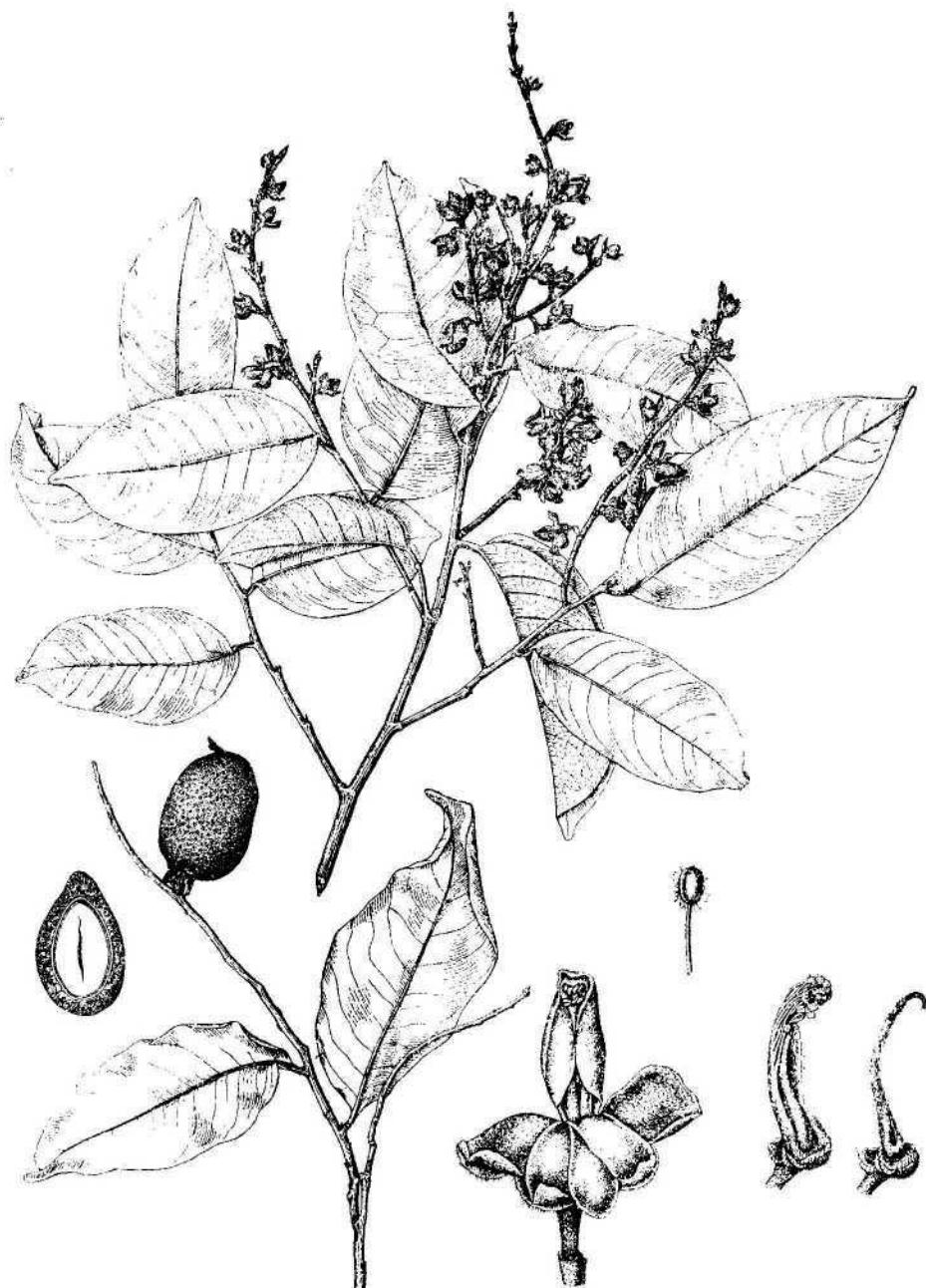


Fig. 1. — *Acioa heteropelatu* (Scort.) Kosterm. (after E 1161, BO).

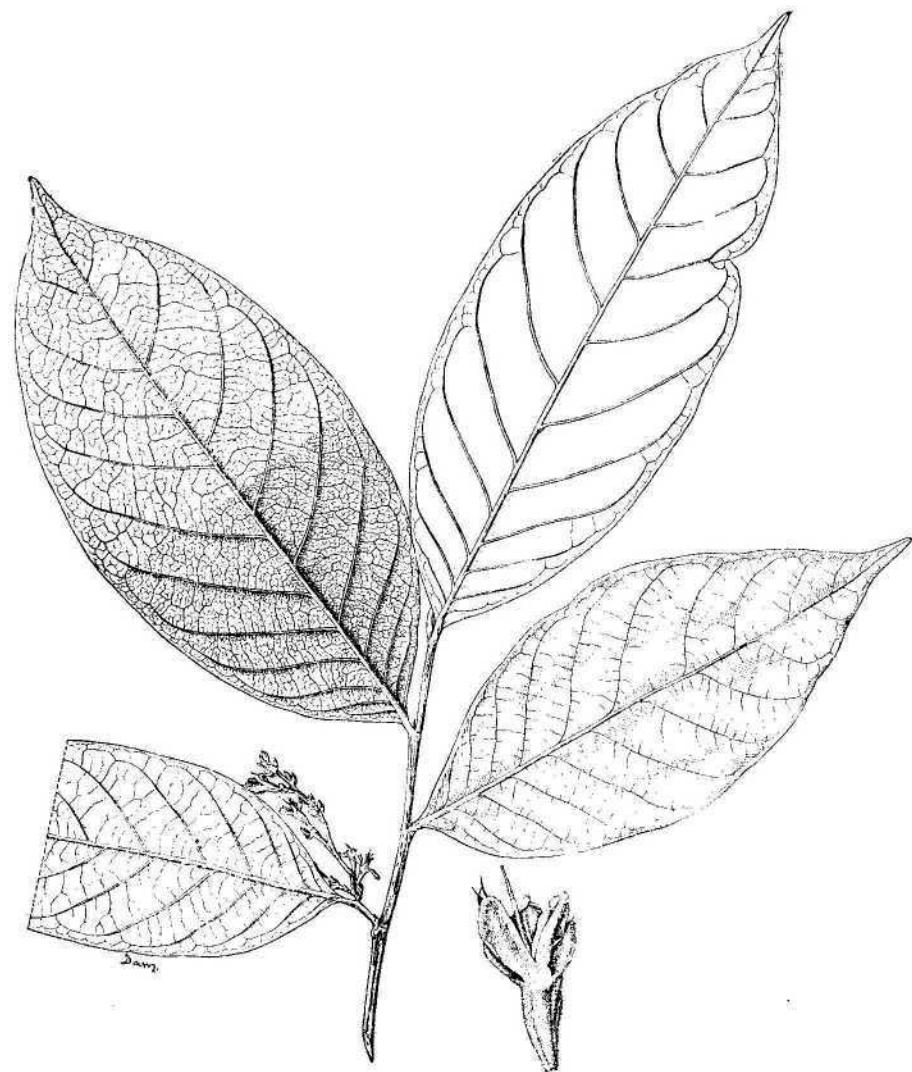


Fig. 2. — *Acioa inalaijaiui* Kosterm.

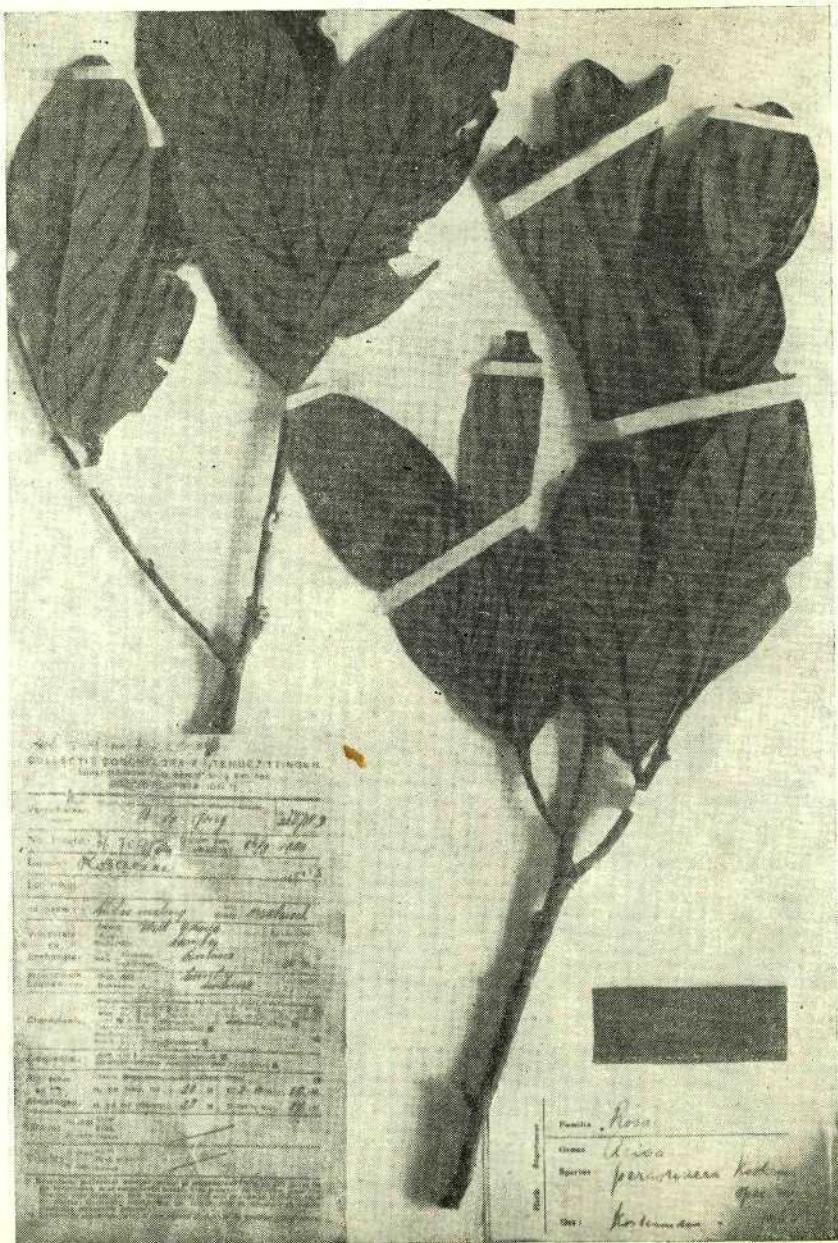


Fig. S. — *Acioou percoria-cea* Kosterm.

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NEW AND CRITICAL MALESIAN PLANTS VII *)

by

A.J.G.H. KOSTERMANS **)

SUMMARY

1. Anacardiaceao: *Mangifera caesia* Jack is combined with *M. kemanga* Bl. and 3 varieties are recognized: *caesia*, *kemanga* and *wanji*.
2. Newly described are: *M. pajang* and *M. torquenda*.
3. *Lepidadenia seloang* Miquel represents: *Phoebe declinata* Bl.
4. New Lauraceae: *Beilschmiedia glabra*, *B. dictyneura*, *B. bangkae*, *B. raontanoides*, *B. rivularis*; *Endiandra ochracea*, *E. magnilimba*.
5. In Meliaceae are newly described: *Aphanamixis reticulosa*, *Lansium pedicellatum* and *L. sepalinum*.
6. *Sterculia minahassae* Kds. is referred to *Firmiana*. *F. philippinensis* Kosterm. is reduced to synonymy.

A N A C A R D I A C E A E

1. MANGIFERA CAESIA Jack

Jack's type specimen is apparently not extant any more. His description of the fruit points to the variety *wanji* as described below.

The inflorescence of the wild form of *M. caesia* is more condensed than that of the cultivated varieties; its fruit is very acid; when young it is green and partly dirty red.

The two varieties *kemanga* and *wanji* differ only by the more elongate and open inflorescences and by the fruit, which are sweet acid and agreeable in taste, when they are fully ripe (fallen from the tree and left to ripen for another one or two days; the pulp becomes then very soft and juicy).

Mangifera kemanga Blume is only grown in West Java as far as I know and perhaps in S. Sumatra and the Malay Peninsula. It has pear shaped fruit, that are pale brown in colour and dull, whereas those of the variety

*) The first and second part of this series appeared in Reinwardtia 2: 357—66. 1953 and 3: 1—25. 1954; part III and IV were issued separately by the Planning Division of the Forestry Service of Indonesia in Febr. and Oct. 1955; part IV appeared in Reinwardtia 4: 1—40. 1956; part V in Garden's Bull., Singapore 17: 1—10. 1958; part VI in Reinwardtia 5: 341—69. 1961.

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